

AMENDMENTS TO THE CLAIMS

Claims 1-21 (Canceled).

Claim 22 (Currently amended):

A method to screen for drugs which are useful in treating a person with a mutation in *HERG*, wherein said mutation is one which causes cardiac arrhythmias and results in a cysteine at amino acid residue 572, an aspartic acid at amino acid residue 588, a valine at amino acid residue 614, an alanine at amino acid residue 630 or a ~~lysine~~ leucine at amino acid residue 29, said method comprising:

- a) placing a first set of cells expressing *HERG* with a mutation, wherein said mutation is a cysteine at amino acid residue 572, an aspartic acid at amino acid residue 588, a valine at amino acid residue 614, an alanine at amino acid residue 630 or a lysine at amino acid residue 29, into a ~~bathing~~ solution suitable for measuring conductance of a first induced K^+ current;
- b) measuring said first induced K^+ current;
- c) placing a second set of cells expressing wild-type *HERG* into a ~~bathing~~ solution suitable for measuring conductance of a second induced K^+ current;
- d) measuring said second induced K^+ current;
- e) adding a drug to the ~~bathing~~ solution of step (a);
- f) measuring a third induced K^+ current of cells in step (e); and
- g) determining whether the third induced K^+ current is closer in value to the second induced K^+ current than is the first induced K^+ current, wherein drugs resulting in a third induced K^+ current which is closer in value to the second induced K^+ current than is the first induced K^+ current are useful in treating said persons.

Claim 23 (Previously amended):

The method of claim 22 wherein cells of said first set of cells are transfected with a mutant *HERG* wherein said mutant *HERG* encodes a *HERG* protein with a cysteine at amino acid residue 572, an aspartic acid at amino acid residue 588, a valine at amino acid residue 614, an alanine at amino acid residue 630 or a leucine at amino acid residue 29.

Claim 24 (Original):

The method of claim 22 wherein cells of said second set of cells are transfected with nucleic acid encoding wild-type HERG.

Claim 25 (Original):

The method of claim 22 wherein said first set of cells or said second set of cells is obtained from a transgenic animal.

Claims 26-30 (Canceled).